Dell Latitude E5540
Owner's Manual

Regulatory Model: P44G
Regulatory Type: P44G001

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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1

Working on Your Computer

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

   NOTE: To avoid damaging the system board, you must remove the main battery before you service the computer.
7. Remove the main battery.
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

    CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

    CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.
11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:
   - In Windows 8:
     * Using a touch-enabled device:
       a. Swipe in from the right edge of the screen, opening the Charms menu and select **Settings**.
       b. Select the ⏻ and then select **Shut down**
     * Using a mouse:
       a. Point to upper-right corner of the screen and click **Settings**.
       b. Click the ⏻ and select **Shut down**.
   - In Windows 7:

     1. Click **Start** .
     2. Click **Shut Down.**

     or

     1. Click **Start** .

2. Click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**..

2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 4 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.

   CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.
3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

2

Removing and Installing Components

This section provides detailed information on how to remove or install the components from your computer.

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe

System Overview

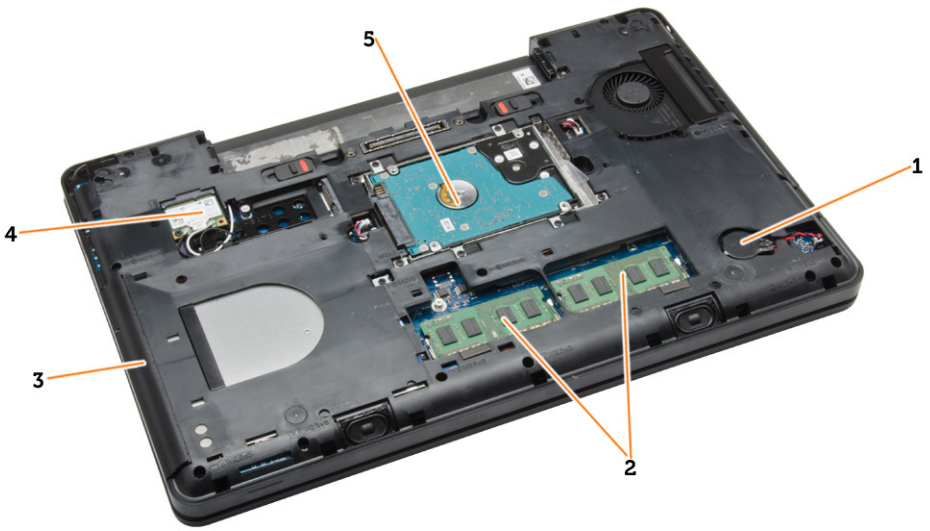


Figure 1. Inside View — Back

1. coin-cell battery
2. memory modules
3. optical drive
4. WLAN card
5. hard drive

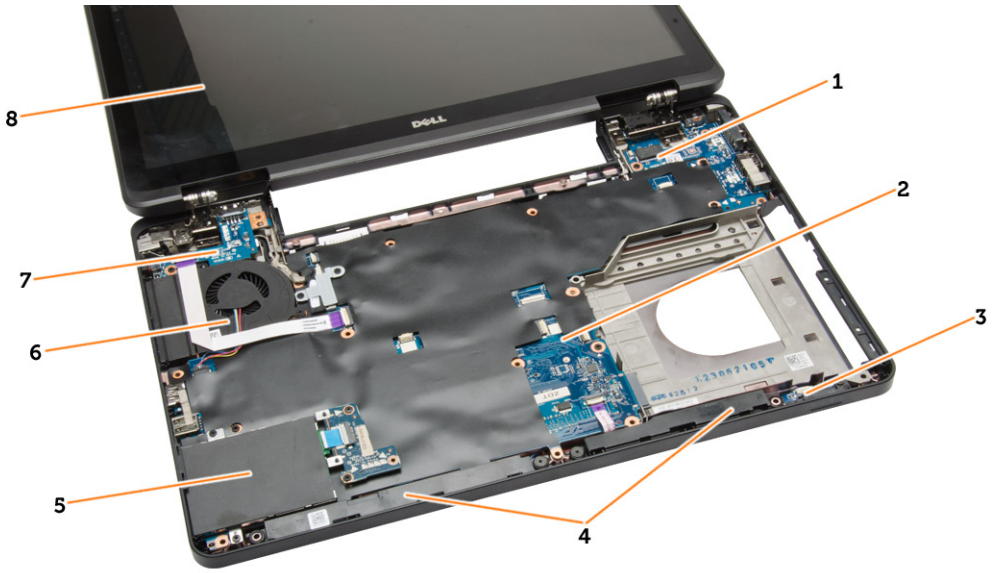
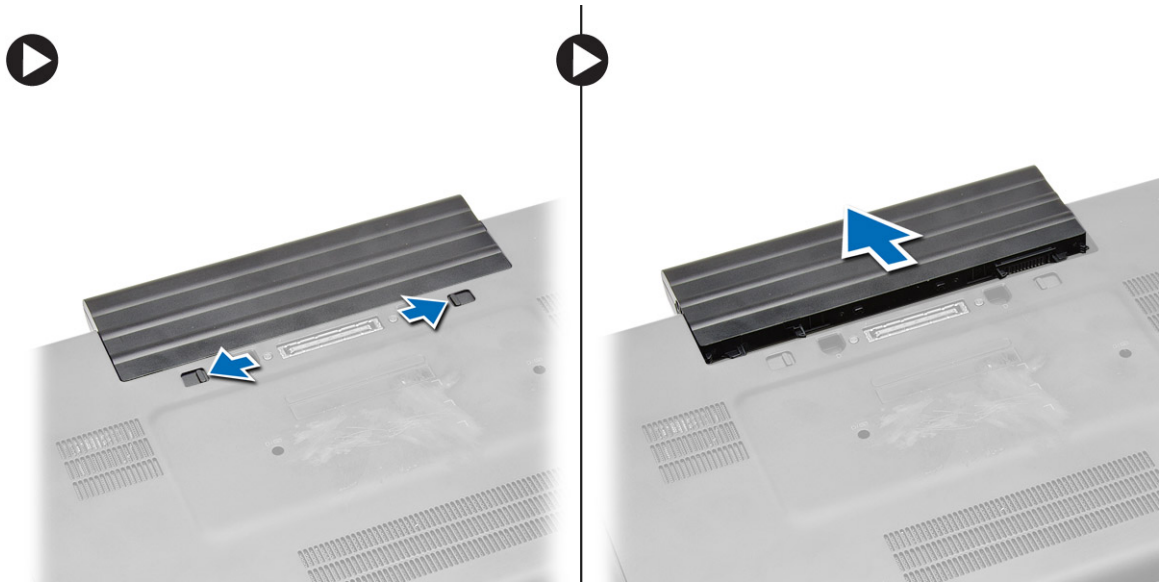


Figure 2. Inside view — Front

1. I/O board (right)
2. system board
3. status-light board
4. speakers
5. ExpressCard cage
6. system fan
7. I/O board (left)
8. display assembly

Removing the Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Perform the following steps:
   a) Slide the battery release latches into the unlock position.
   b) Push and remove the battery from the computer.



Installing the Battery

1. Slide the battery into its slot until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

Removing the SD Card

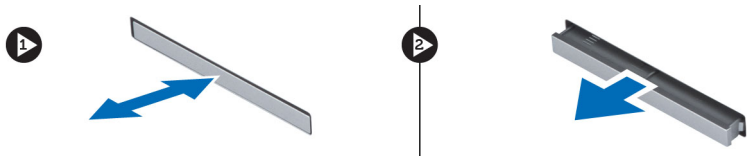
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Press in on the SD card to release it from the computer.
3. Slide the SD card out of the computer.

Installing the SD Card

1. Push the SD card into the compartment until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

Removing the ExpressCard

1. Follow the procedures in *Before Working On Your Computer*.
2. Perform the following steps:
   a) Push in on the ExpressCard to release from the computer [1].
   b) Slide the ExpressCard out of the computer [2].

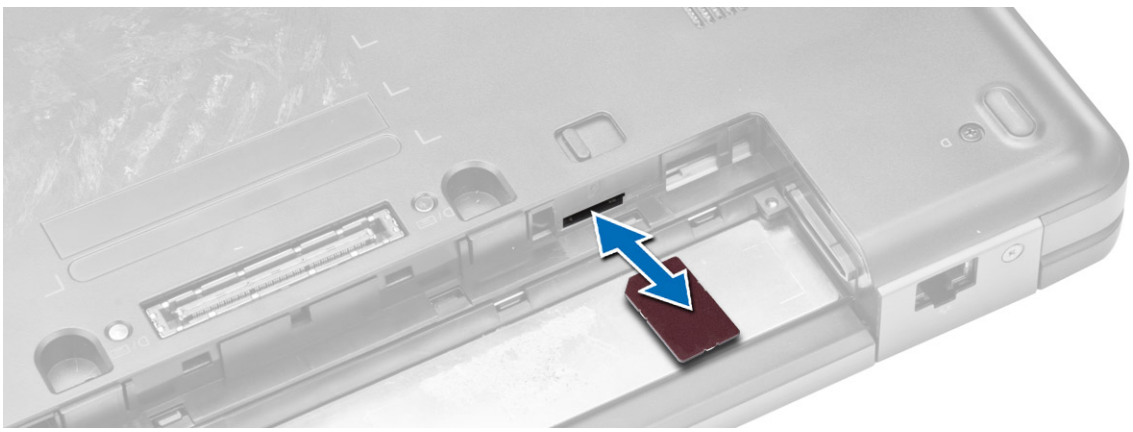


Installing the ExpressCard

1. Slide the ExpressCard in its slot until it clicks in place.
2. Follow the procedures in *After Working Inside Your Computer*.

Removing the SIM Card

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the battery.
3. Press and release the SIM card located on the battery wall.
4. Slide the SIM card from the computer.



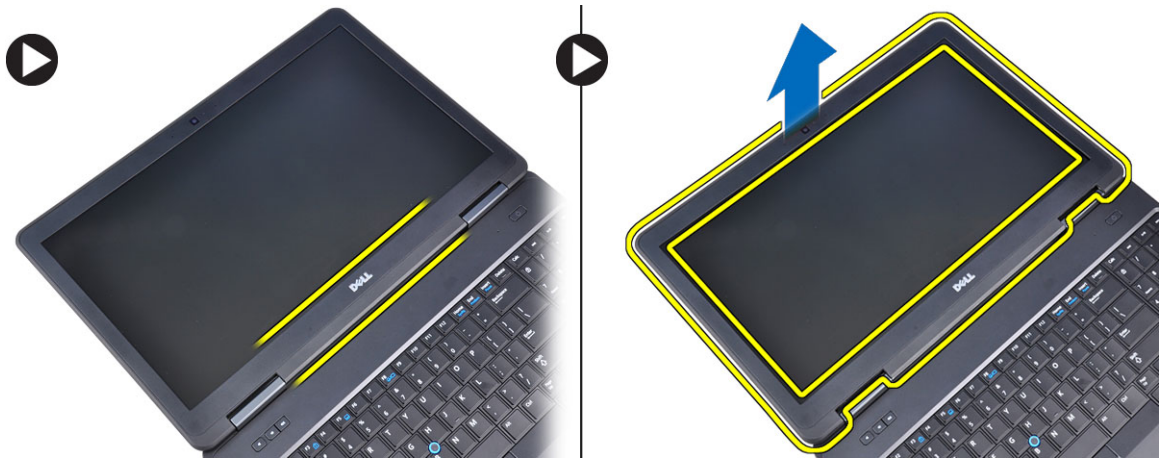
NOTE: The SIM slot in the computer supports only micro SIM.

Installing the SIM Card

1. Insert the SIM card into the slot.
2. Install the battery.
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the Display Bezel

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Perform the following steps:
   a) Pry up the bottom edge of the display bezel.
   b) Work your way around the sides and top edge of the display bezel.



4. Remove the display bezel from the computer.

Installing the Display Bezel

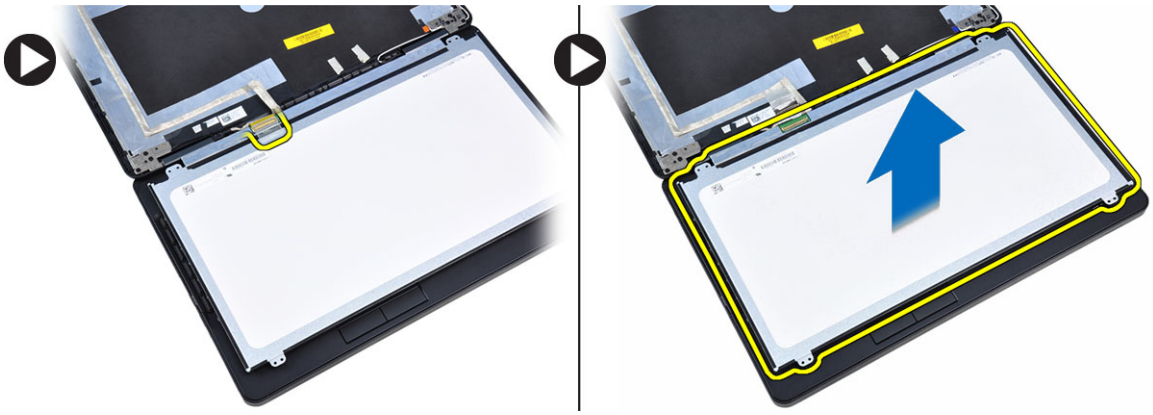
1. Place the display bezel onto the display assembly.
2. Starting from the top corner, press on the display bezel and work around the entire bezel until it snaps onto the display assembly.
3. Install the battery.
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Display Panel

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) display bezel
3. Remove the screws that secure the display panel and flip the panel over.

4. Perform the following steps:

a) Lift the mylar tape and disconnect the low-voltage differential signaling (LVDS) cable from the back of the display panel.
b) Remove the display panel from the display assembly.



Installing the Display Panel

1. Place the display panel to the display assembly.
2. Align the display panel in its original position.
3. Connect the low-voltage differential signaling (LVDS) cable to the display panel and attach the tape.
4. Flip the display panel over and tighten the screws to secure the display panel.
5. Install:
   a) display bezel
   b) battery
6. Follow the procedures in *After Working Inside Your Computer*.

Removing the Camera

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) display bezel
3. Perform the following steps:
   a) Remove the screw that secures the camera and microphone module.
   b) Disconnect the camera cable.
   c) Lift and remove the camera and microphone module.

Installing the Camera

1. Place the camera and microphone module on its place.
2. Connect the camera cable.
3. Tighten the screw to secure the camera and microphone module.
4. Install:
   a) display bezel
   b) battery
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Keyboard Trim

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Perform the following steps:
   a) Remove the screw that secures the keyboard trim at the back of the computer.
   b) Pry up the keyboard trim on its sides and the top edge.
   c) Lift upwards and remove the keyboard trim from the computer.

Installing the Keyboard Trim

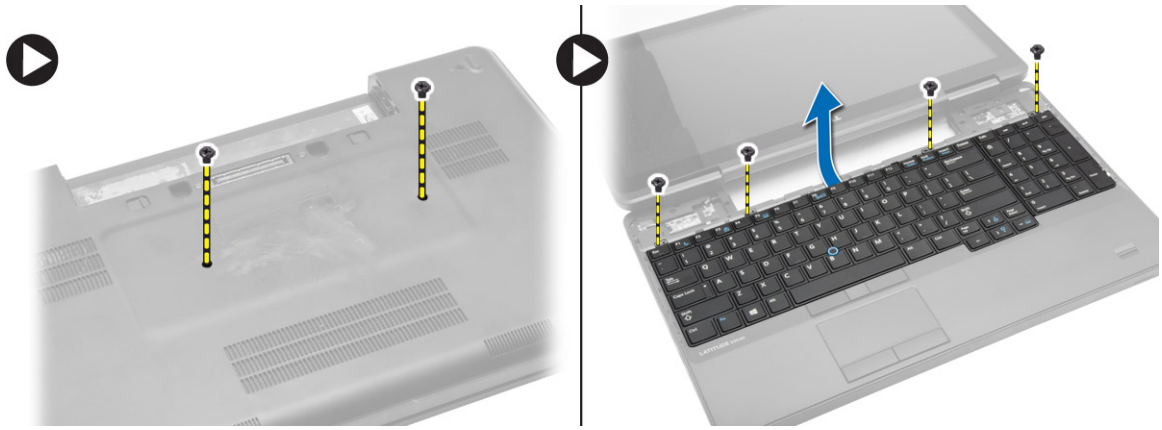
1. Align the keyboard trim to its place.
2. Press along the sides of the keyboard trim until it snaps in place.
3. Tighten the screw at the back of the computer to secure the keyboard trim.
4. Install the battery.
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Keyboard

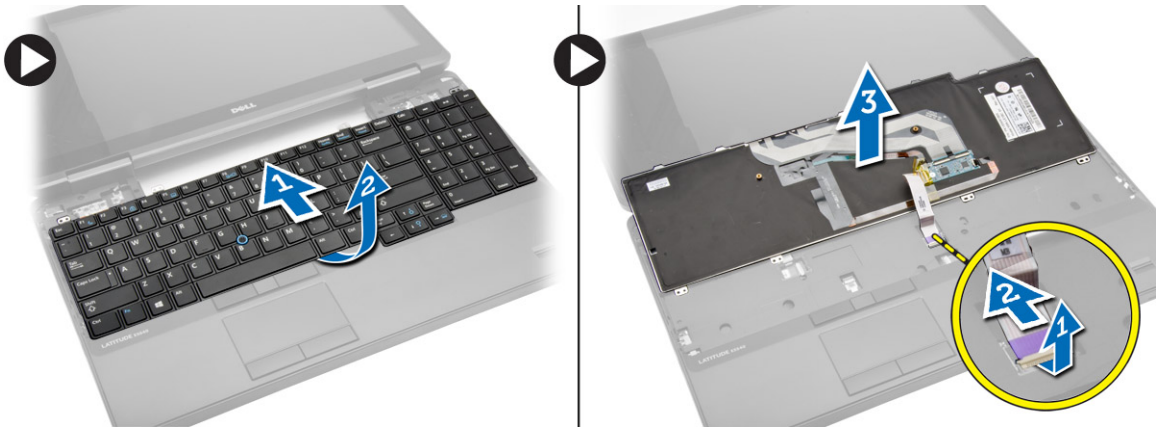
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery

b) keyboard trim

3. Perform the following steps:
   a) Remove the screws at the back of the computer and flip the computer over.
   b) Remove the screws that secure the keyboard to the computer.



4. Perform the following steps:
   a) Slide the keyboard and flip the keyboard over [1] and [2]
   b) Disconnect the keyboard cable [1] and [2] and lift the keyboard to remove from the computer [3].

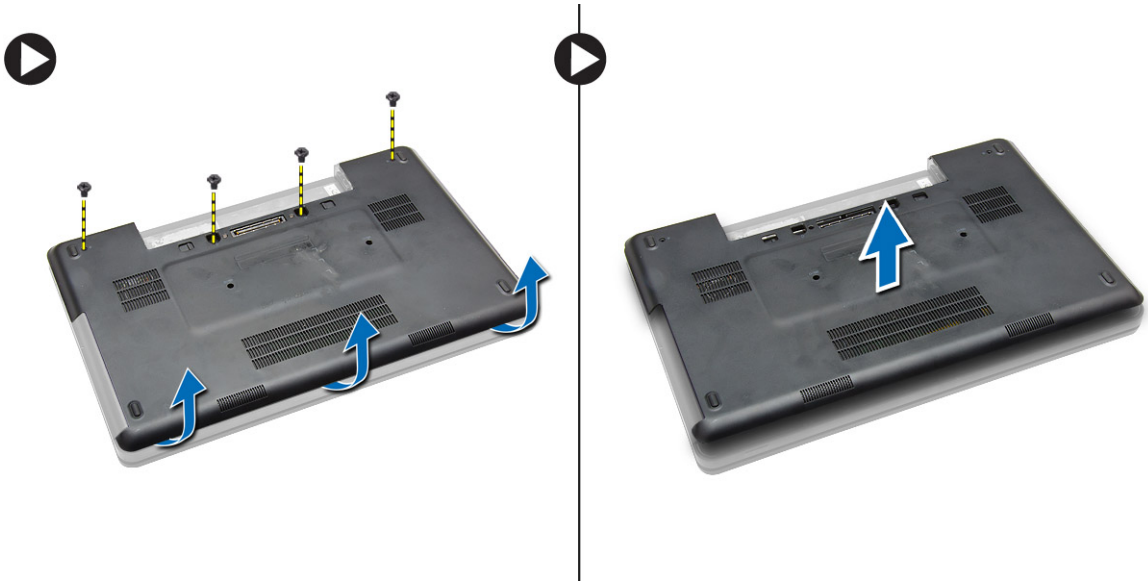


Installing the Keyboard

1. Connect the keyboard cable to the keyboard.
2. Place the keyboard into its place until all the metal tabs fit into their positions.
3. Press down on the keyboard to the left and right side ensuring that all the snaps are fully engaged with the computer.
4. Install the screws to secure the keyboard to the palmrest.
5. Install the screws at the back of the computer.
6. Install:
   a) keyboard trim
   b) battery
7. Follow the procedures in *After Working Inside Your Computer*.

Removing the Base Cover

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the battery.
3. Perform the following steps:
   a) Remove the screws that secure the base cover.
   b) Slide the base cover towards the front of the system and remove it from the computer.

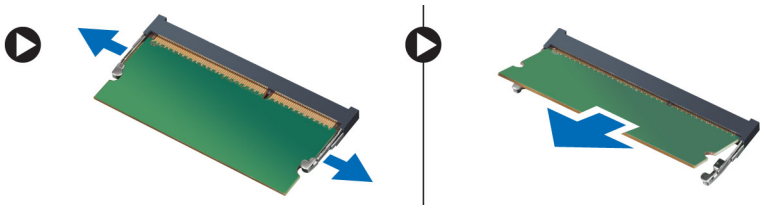


Installing the Base Cover

1. Slide the base cover into its slot until it clicks into place.
2. Install the screws that secure the base cover to the computer.
3. Install the battery.
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Memory Module

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
3. Pry the retention clips away from the memory module until it pops up.
4. Lift up the memory module and remove it from the computer.

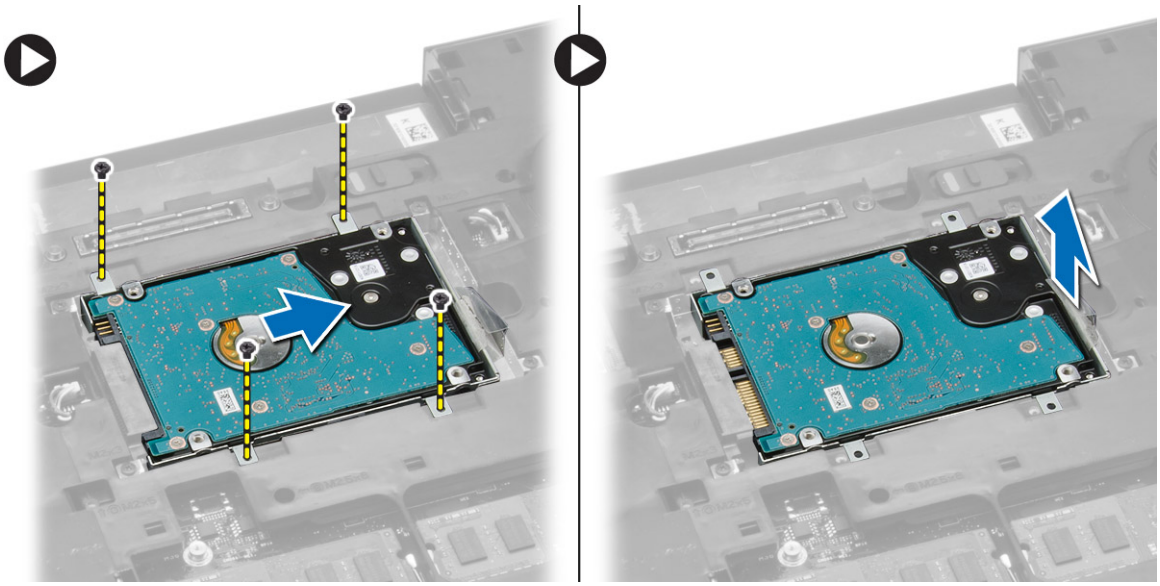


Installing the Memory Module

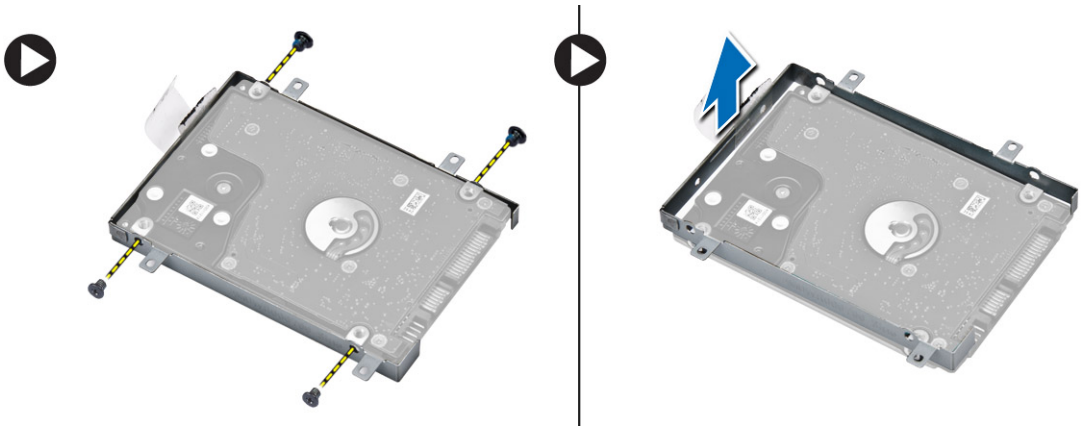
1. Insert the memory into the memory socket.
2. Press the clips to secure the memory module to the system board.
3. Install:
   a) base cover
   b) battery
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Hard Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
3. Perform the following steps:
   a) Remove the screws that secure the hard drive in place.
   b) Pull the hard drive to remove from its connectors.



4. After removing the hard drive, perform the following steps:
   a) Remove the screws that secure the hard-drive bracket.
   b) Remove the hard-drive bracket from the hard drive.

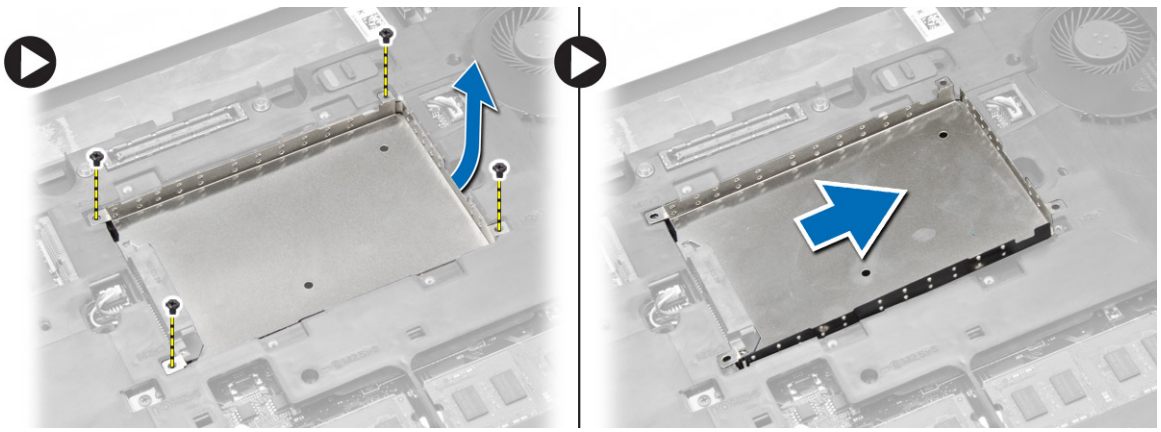


Installing the Hard Drive

1. Place the hard-drive bracket on the hard drive and tighten the screws to secure the hard-drive bracket to the hard drive.
2. Place the hard drive on its connector.
3. Install:
   a) base cover
   b) battery
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Hard-Drive Cage

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
   c) hard drive
3. Perform the following steps:
   a) Remove the screws that secure the hard-drive cage in place.
   b) Pull the hard-drive cage to remove from the computer.

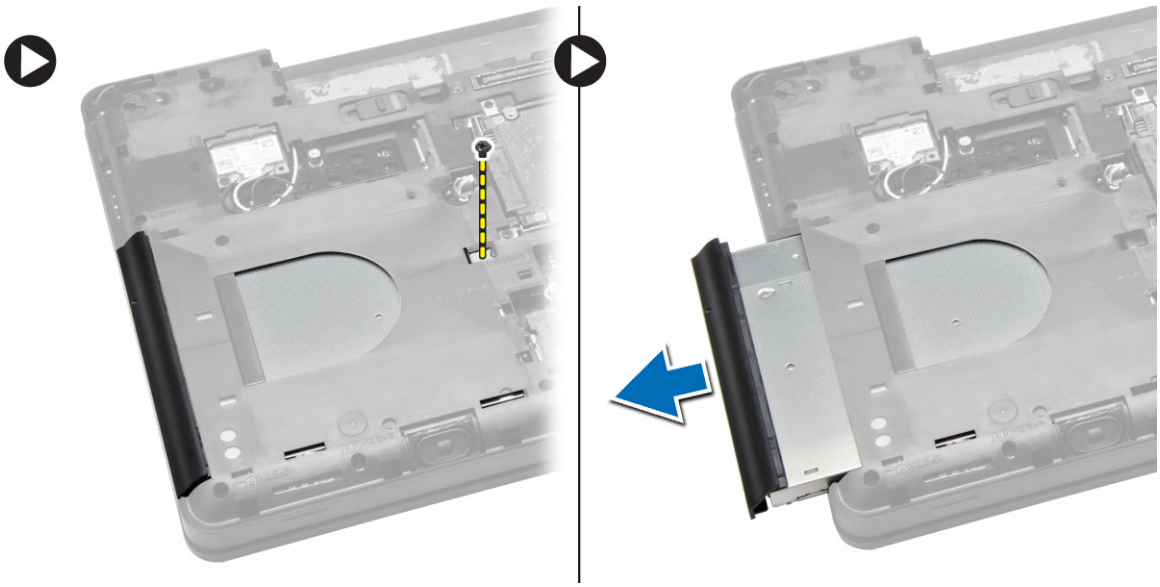


Installing the Hard-Drive Cage

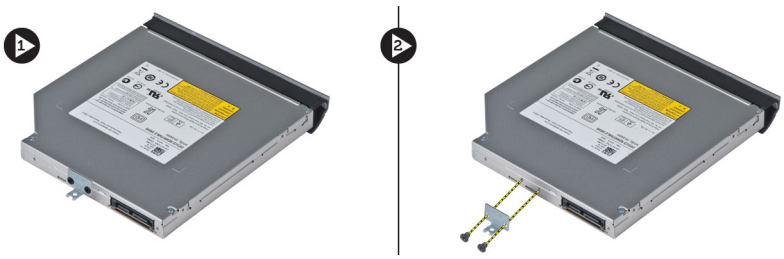
1. Place the hard-drive cage on its place.
2. Tighten the screws to secure the hard-drive cage.
3. Install:
   a) hard drive
   b) base cover
   c) battery
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Optical Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
3. Perform the following steps:
   a) Remove the screw that secures the optical drive to the computer.
   b) Push the optical drive away to remove it from the computer.



4. After removing the optical-drive bracket, perform the following steps:
   a) Remove the screws that secure the optical-drive bracket [1].
   b) Remove the optical-drive bracket from the optical drive [2].



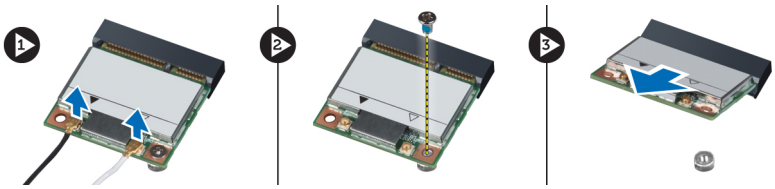
5. Disengage the optical drive bezel tabs to separate the optical drive bezel from the optical drive.
6. Remove the optical-drive bezel.

Installing the Optical Drive

1. Engage the optical-drive bezel tabs to attach the optical-drive bezel to the optical drive.
2. Install the optical-drive bracket.
3. Tighten the screws to secure the optical-drive bracket.
4. Insert the optical drive into the computer.
5. Tighten the screw to secure the optical drive in its place.
6. Install:
   a) base cover
   b) battery
7. Follow the procedures in *After Working Inside Your Computer*.

Removing the WLAN Card

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
3. Perform the following steps:
   a) Disconnect the antennae cables from the WLAN card.
   b) Remove the screw that secures the WLAN card to the computer.
   c) Remove the WLAN card from its slot on the system board.



Installing the WLAN Card

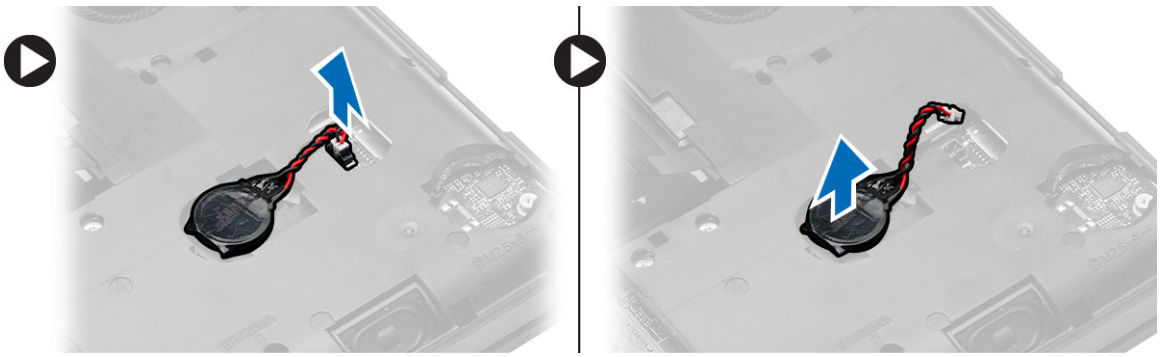
1. Insert the WLAN card into its connector on the system board.
2. Connect the antenna cables to the respective connectors marked on the WLAN card.
3. Tighten the screw to secure the WLAN card to the computer.
4. Install:
   a) base cover
   b) battery
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Coin-Cell Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:

a) battery
b) base cover

3. Perform the following steps:
   a) Disconnect the coin-cell battery cable from the system board.
   b) Pry and remove the coin-cell battery from the adhesive.

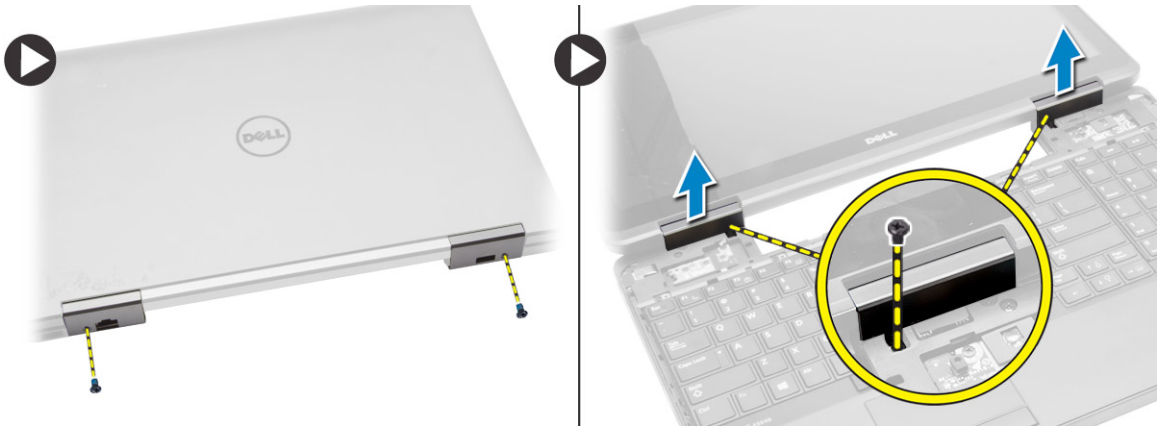


Installing the Coin-Cell Battery

1. Place the coin-cell battery on the system board with adhesive side downwards.
2. Connect the coin-cell battery cable to the system board.
3. Install:
   a) base cover
   b) battery
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Display Hinge

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) battery
   b) base cover
   c) keyboard trim
   d) keyboard
3. Perform the following steps:
   a) Remove the screws that secure the display hinge at the front and back of the computer.
   b) Lift and remove the display hinge from the computer.

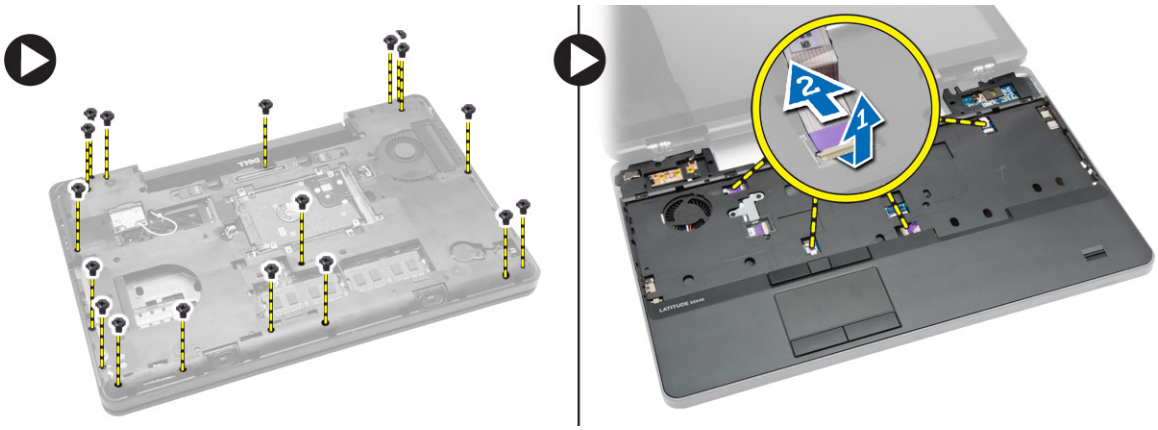


Installing the Display Hinge

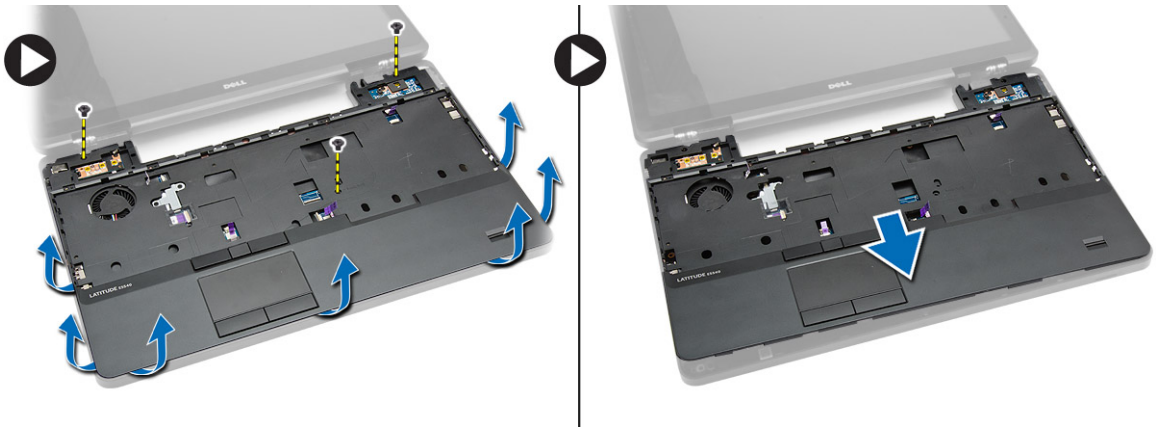
1. Place the display hinge on the computer.
2. Tighten the screws to secure the display hinge at the front and back of the computer.
3. Install:
   a) keyboard
   b) keyboard trim
   c) base cover
   d) battery
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Palmrest

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) display hinge
3. Remove the screws at the back of the computer and disconnect:
   a) power-connector cable [1] and [2]
   b) media-buttons cable [1] and [2]
   c) touch-pad cable [1] and [2]
   d) fingerprint-scanner cable [1] and [2]



4. Perform the following steps:
   a) Remove the screws that secure the palmrest of the computer.
   b) Lift and remove the palmrest from the computer.



Installing the Palmrest

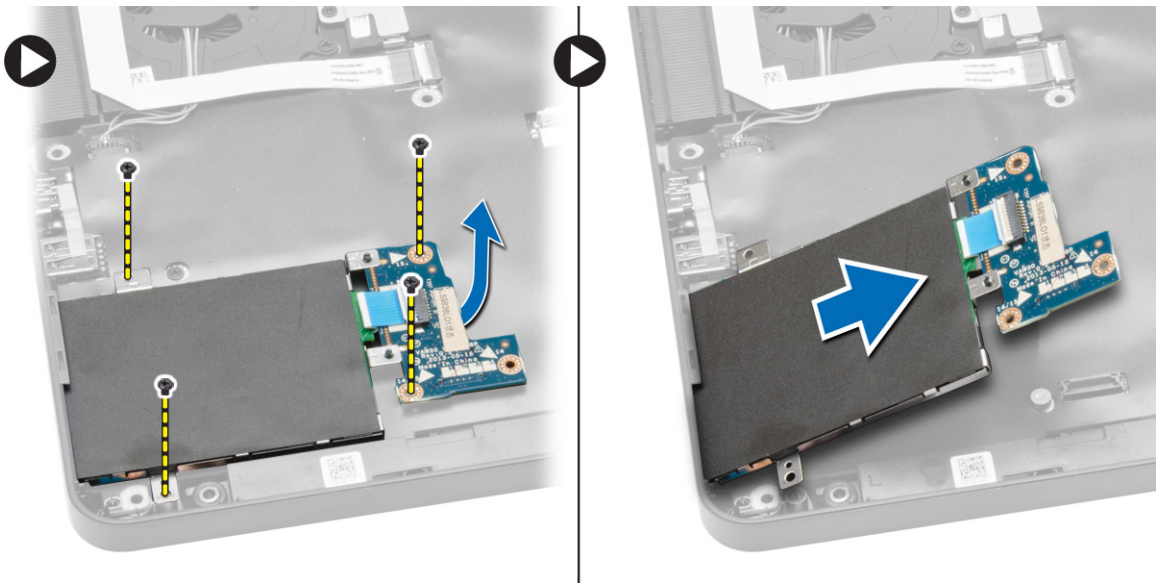
1. Align the palmrest assembly to its original position in the computer and snap it into place.
2. Connect the following cables to the system board:
   a) power-button cable
   b) fingerprint-scanner cable
   c) touch-pad cable
   d) media button cable
3. Tighten the screws to secure the palmrest at the front and back of the computer.
4. Install:
   a) display hinge
   b) hard-drive cage
   c) hard drive
   d) optical drive
   e) memory
   f) keyboard
   g) keyboard trim

h) base cover
i) battery
j) SD card

5. Follow the procedures in *After Working Inside Your Computer*.

Removing the ExpressCard Cage

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) display hinge
   g) palmrest
3. Perform the following steps:
   a) Remove the screws that secure the ExpressCard cage.
   b) Lift and remove the ExpressCard cage from the computer.



Installing the ExpressCard Cage

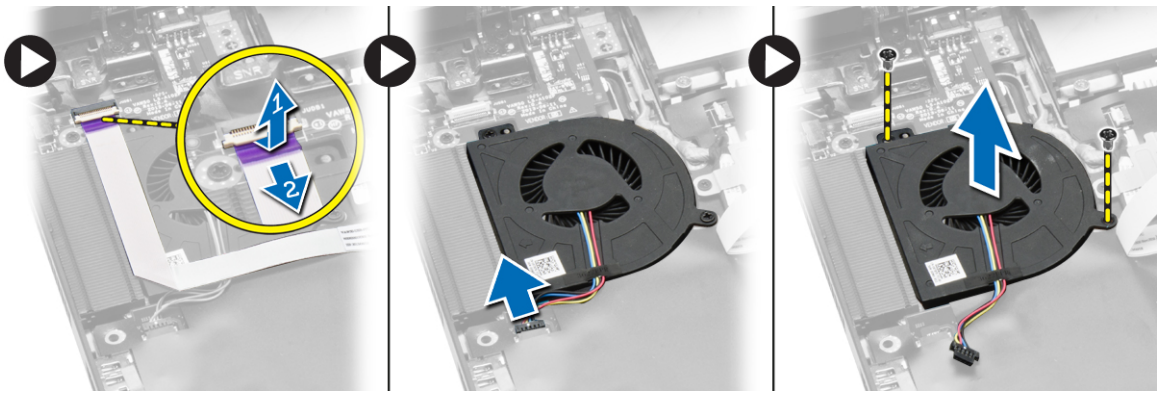
1. Align the ExpressCard cage to its original position on the computer and snap it into place.
2. Install the screws that secure the ExpressCard cage to the system board.
3. Install:
   a) palmrest
   b) display hinge
   c) keyboard
   d) keyboard trim
   e) base cover

f) battery
g) SD card

4. Follow the procedures in *After Working Inside Your Computer*.

Removing the System Fan

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) display hinge
   k) palmrest
3. Perform the following steps:
   a) Disconnect the I/O board cable and system-fan cable [1] and [2].
   b) Remove the screws that secure the system fan and lift to remove the system fan from the computer.



Installing the System Fan

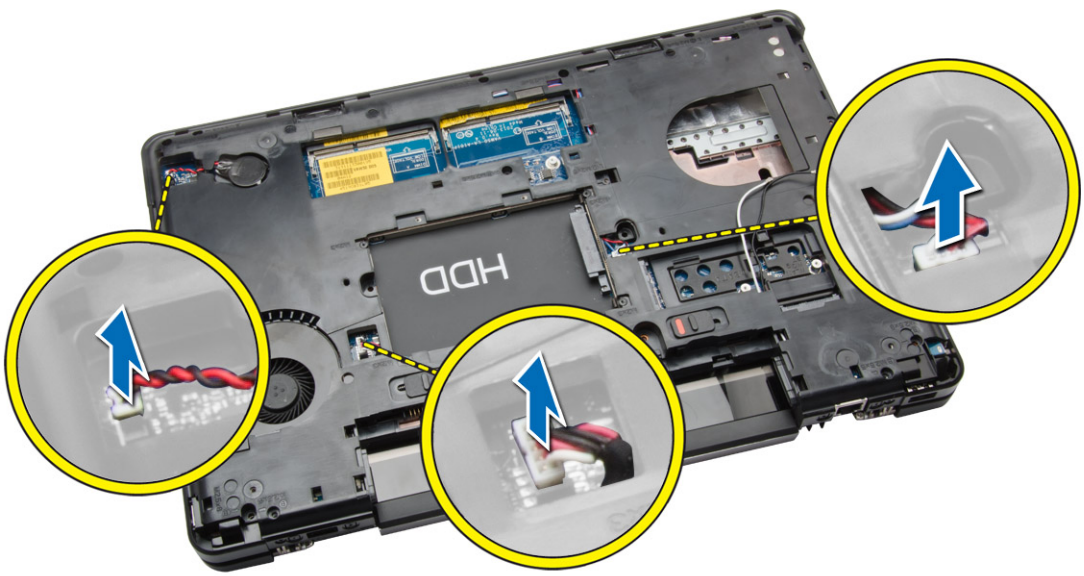
1. Place the system fan on the computer.
2. Connect the system-fan cable to the system board.
3. Connect the I/O board cable to its connector.
4. Tighten the screws to secure the system fan on the computer.
5. Install:
   a) palmrest
   b) display hinge
   c) memory
   d) hard-drive cage
   e) hard drive

f) optical drive
g) keyboard
h) keyboard trim
i) base cover
j) battery
k) SD card

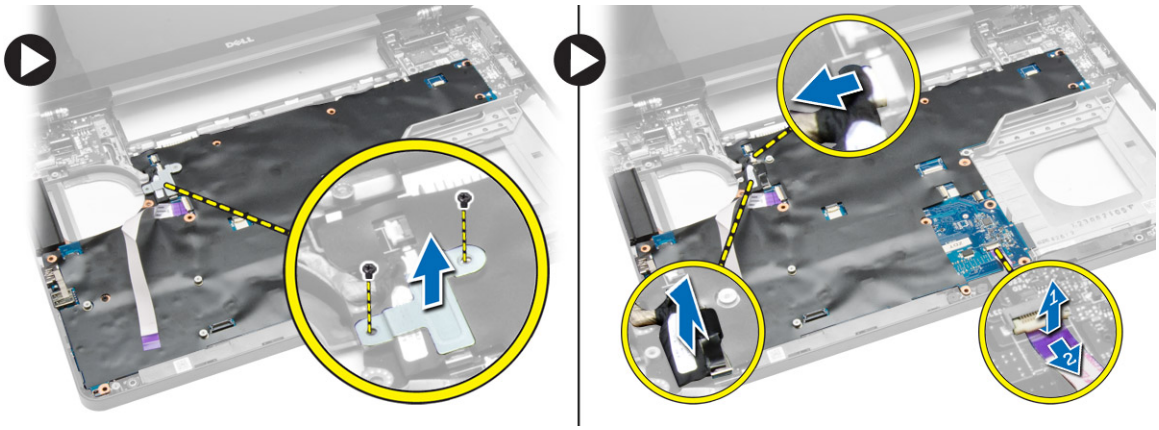
6. Follow the procedures in *After Working Inside Your Computer*.

Removing the System Board

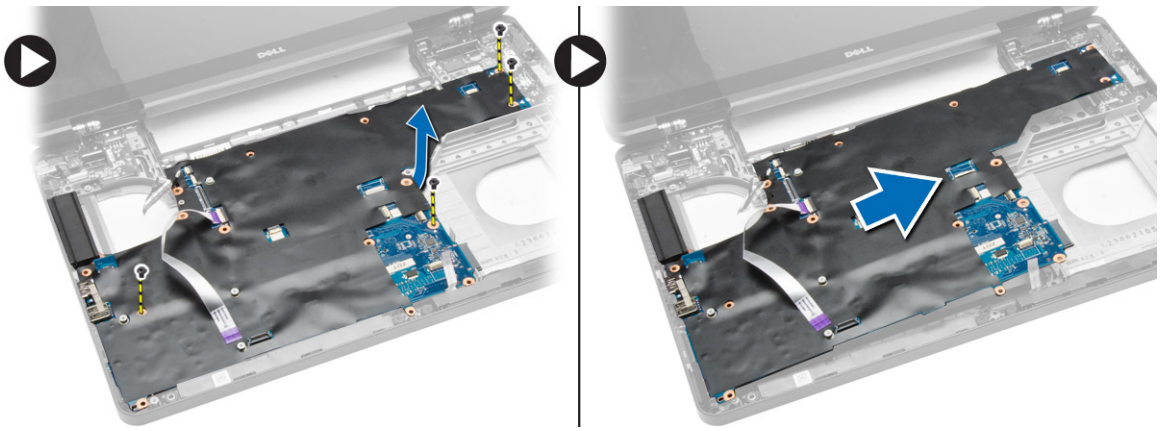
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) WLAN card
   k) display hinge
   l) palmrest
   m) system fan
   n) ExpressCard cage
3. Disconnect:
   a) coin-cell battery cable
   b) power-connector cable
   c) speaker cable



4. Flip the computer and perform the following steps:
   a) Remove the screws that secure the display-cable connector and remove it from the system board.
   b) Disconnect the display cable and status-light board cable from the system board.



5. Perform the following steps:
   a) Remove the screws that secure the system board on the computer.
   b) Lift and remove the system board from the computer.



Installing the System Board

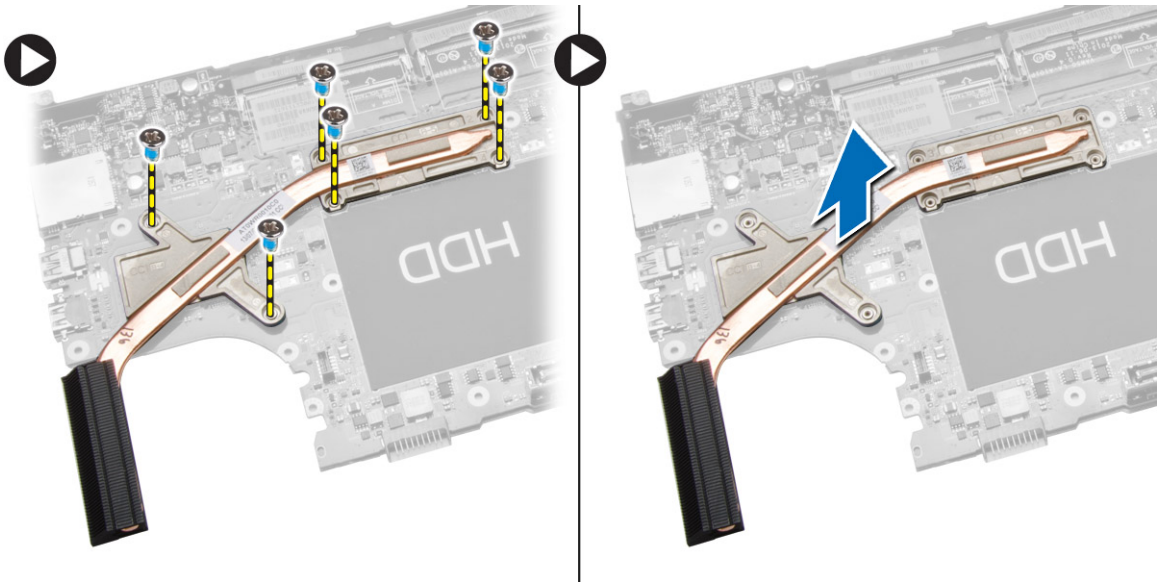
1. Align the system board into its original position on the computer.
2. Replace and tighten the screws to secure the system board to the computer.
3. Connect the following cables:
   a) I/O board cable
   b) status-light board cable
4. Turn over the computer and connect:
   a) coin-cell battery cable
   b) power-connector cable
   c) speaker cable
5. Install:
   a) ExpressCard cage

b) system fan
c) palmrest
d) display hinge
e) WLAN card
f) hard-drive cage
g) hard drive
h) optical drive
i) memory
j) keyboard
k) keyboard trim
l) base cover
m) battery
n) SD card

6. Follow the procedures in *After Working Inside Your Computer*.

Removing the Heatsink

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) WLAN card
   k) display hinge
   l) palmrest
   m) system fan
   n) ExpressCard cage
   o) system board
3. Perform the following steps:
   a) Remove the screws that secure the heatsink in place.
   b) Lift to remove the heatsink from the computer.



Installing the Heatsink

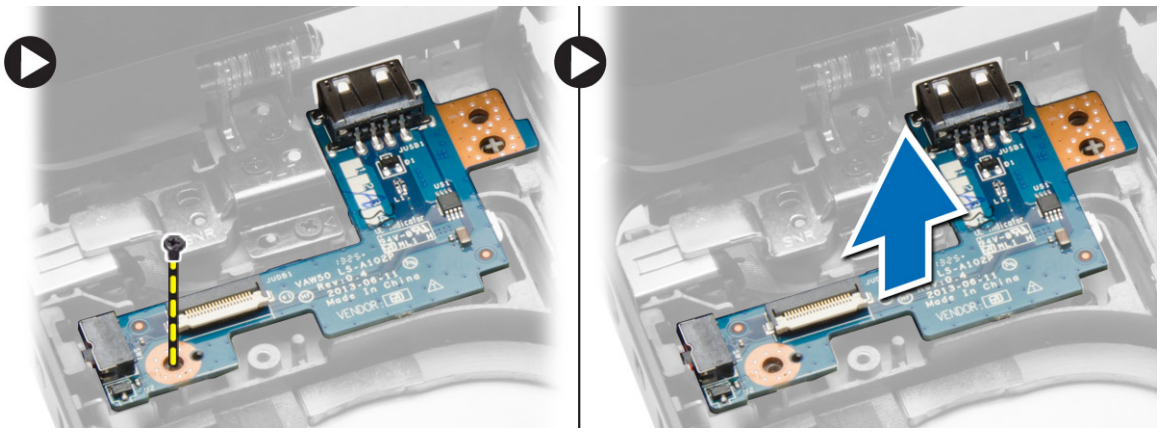
1. Place the heatsink on the system board.
2. Tighten the screws to secure the heatsink to the computer.
3. Install:
   a) system board
   b) ExpressCard cage
   c) system fan
   d) palmrest
   e) display hinge
   f) WLAN card
   g) hard-drive cage
   h) hard drive
   i) optical drive
   j) memory
   k) keyboard
   l) keyboard trim
   m) base cover
   n) battery
   o) SD card
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the I/O Board (Left)

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover

d) keyboard trim
e) keyboard
f) memory
g) optical drive
h) hard drive
i) hard-drive cage
j) WLAN card
k) display hinge
l) palmrest
m) system fan
n) ExpressCard cage
o) system board

3. Perform the following steps:
   a) Remove the screw that secures the left I/O board on the computer.
   b) Lift the I/O board and remove from the computer.



Installing the I/O Board (Left)

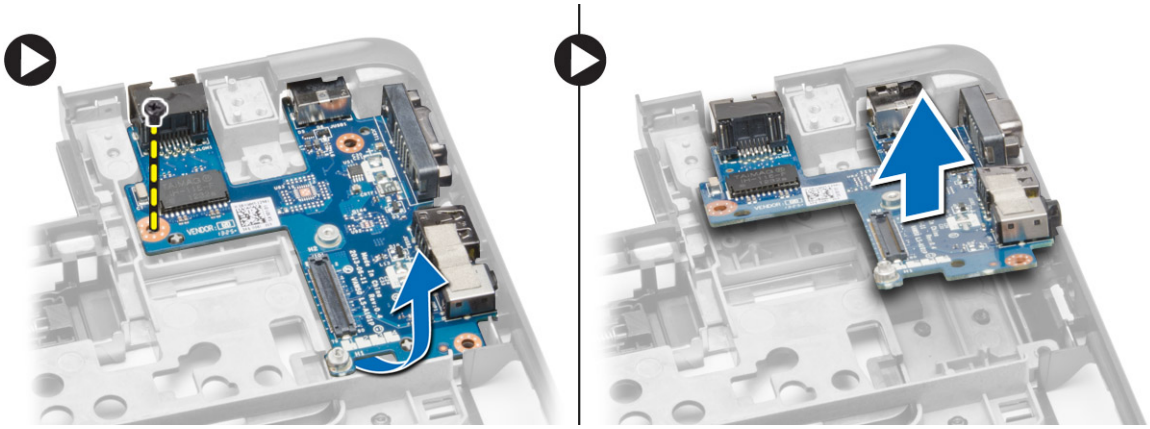
1. Place the I/O board on the computer.
2. Tighten the screw to secure the I/O board to the computer.
3. Install:
   a) system board
   b) ExpressCard cage
   c) system fan
   d) palmrest
   e) display hinge
   f) WLAN card
   g) hard-drive cage
   h) hard drive
   i) optical drive
   j) memory
   k) keyboard
   l) keyboard trim
   m) base cover
   n) battery

o) SD card

4. Follow the procedures in *After Working Inside Your Computer*.

Removing the I/O Board (Right)

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) WLAN card
   k) display hinge
   l) palmrest
   m) system fan
   n) ExpressCard cage
   o) system board
3. Perform the following steps:
   a) Remove the screws that secure the I/O board on the computer.
   b) Lift the I/O board and remove from the computer.



Installing the I/O Board (Right)

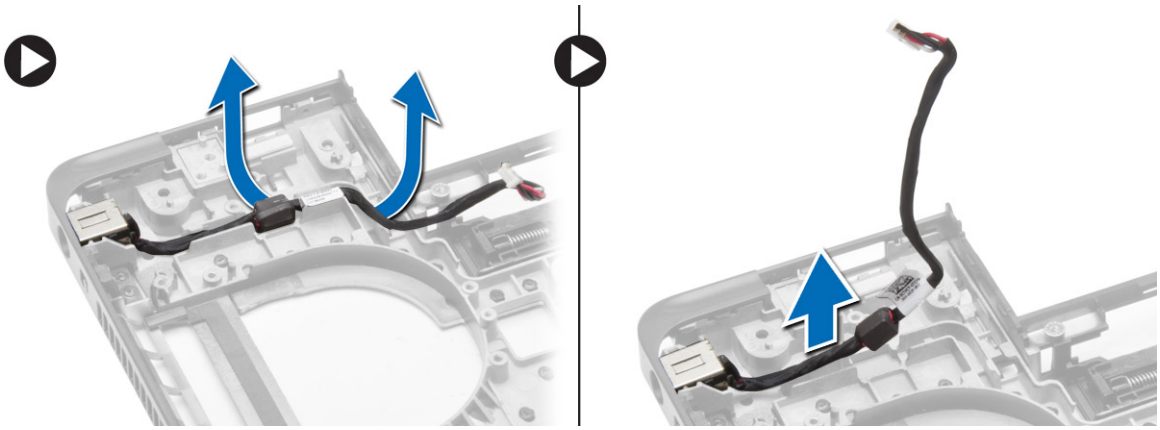
1. Place the I/O board on the computer.
2. Tighten the screws to secure the I/O board to the computer.
3. Install:
   a) system board
   b) ExpressCard cage
   c) system fan

d) palmrest
e) display hinge
f) WLAN card
g) hard drive
h) hard-drive cage
i) optical drive
j) memory
k) keyboard
l) keyboard trim
m) base cover
n) battery
o) SD card

4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Power Connector

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) hard drive
   h) hard-drive cage
   i) optical drive
   j) WLAN card
   k) display hinge
   l) palmrest
   m) ExpressCard cage
   n) system fan
   o) system board
3. Perform the following steps:
   a) Remove the power-connector cable from the routing channels.
   b) Lift and remove the power connector from the computer.

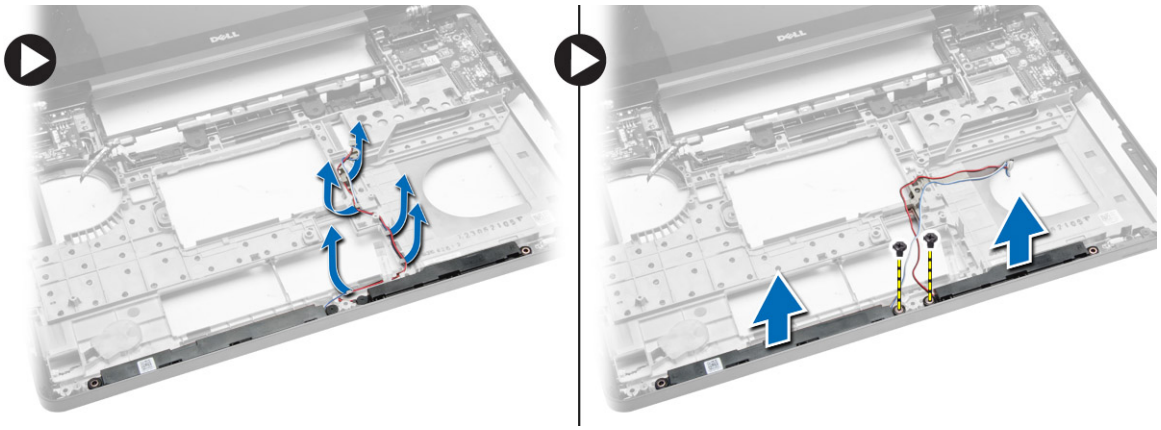


Installing the Power Connector

1. Place the power connector on its place in the computer.
2. Route the power-connector cable on its routing channels.
3. Install:
   a) system board
   b) system fan
   c) ExpressCard cage
   d) palmrest
   e) display hinge
   f) WLAN card
   g) hard-drive cage
   h) hard drive
   i) optical drive
   j) memory
   k) keyboard
   l) keyboard trim
   m) base cover
   n) battery
   o) SD card
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Speakers

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD memory card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive
   h) hard drive
   i) hard-drive cage
   j) WLAN card
   k) display hinge
   l) palmrest
   m) system fan
   n) ExpressCard cage
   o) system board
3. Perform the following steps:
   a) Remove the speaker cable from the routing channels.
   b) Remove the screws that secure the speakers from the computer.
   c) Lift and remove the speakers from the computer.



Installing the Speakers

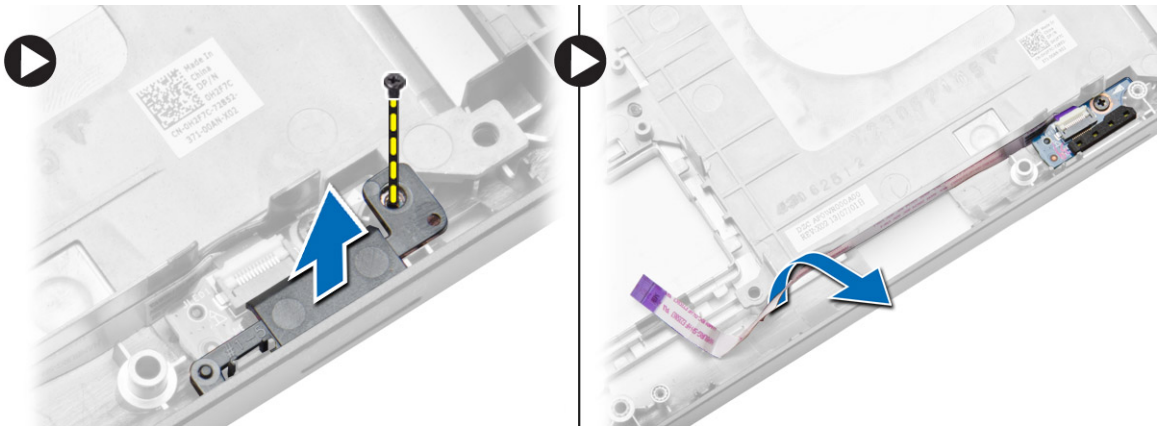
1. Place the speakers on the computer.
2. Secure the speaker cable to the routing channels.
3. Tighten the screws to secure the speakers to the computer.
4. Install:
   a) system board
   b) ExpressCard cage
   c) system fan
   d) palmrest
   e) display hinge
   f) WLAN card
   g) hard-drive cage
   h) hard drive
   i) optical drive
   j) memory
   k) keyboard
   l) keyboard trim
   m) base cover
   n) battery
   o) SD card
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Status-Light Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
   a) SD card
   b) battery
   c) base cover
   d) keyboard trim
   e) keyboard
   f) memory
   g) optical drive

h) hard drive
i) hard-drive cage
j) WLAN card
k) display hinge
l) palmrest
m) system fan
n) ExpressCard cage
o) system board
p) speakers

3. Perform the following steps:
   a) Remove the screw that secures the LED cover.
   b) Un-route the status-light board cable from its channels.



   c) Remove the screw that secures the status-light board and lift to remove the status-light board from the computer.

Installing the Status-Light Board

1. Place the status-light board on its place on the computer.
2. Connect the status-light board cable to its connector.
3. Tighten the screw to secure the status-light board on the computer.
4. Place the LED cover on the status-light board.
5. Install:

a) speakers
b) system board
c) system fan
d) ExpressCard cage
e) palmrest
f) display hinge
g) WLAN card
h) hard-drive cage
i) hard drive
j) optical drive
k) memory
l) keyboard
m) keyboard trim
n) base cover
o) battery
p) SD card

6. Follow the procedures in *After Working Inside Your Computer*.

3

System Setup

System Setup enables you to manage your computer hardware and specify BIOS-level options. From the System Setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Boot Sequence

Boot Sequence allows you to bypass the System Setup-defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing <F2> key
- Bring up the one-time boot menu by pressing <F12> key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot-menu options are:

- Removable Drive (if available)
- STXXXX Drive

  NOTE: XXX denotes the SATA drive number.
- Optical Drive
- Diagnostics

  NOTE: Choosing Diagnostics, will display the **ePSA diagnostics** screen.

The boot sequence screen also displays the option to access the System Setup screen.

Navigation Keys

The following table displays the system setup navigation keys.

NOTE: For most of the system setup options, changes that you make are recorded but do not take effect until you re-start the system.

Table 1. Navigation Keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
<Enter>	Allows you to select a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
<Tab>	Moves to the next focus area. NOTE: For the standard graphics browser only.
<Esc>	Moves to the previous page till you view the main screen. Pressing <Esc> in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.
<F1>	Displays the System Setup help file.

System Setup Options

NOTE: Depending on the computer and its installed devices, the items listed in this section may or may not appear.

Table 2. General

Option	Description	
System Information	This section lists the primary hardware features of your computer. • System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, and the Express Service Code. • Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM ASize, DIMM B Size, • Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit Technology. • Device Information: Displays Primary Hard Drive, MiniCard Device, ODD Device, Dock eSATA Device, LOM MAC Address, Video Controller, Video BIOS Version, Video Memory, Panel Type, Native Resolution, Audio Controller, Wi-Fi Device, WiGig Device, Cellular Device, Bluetooth Device.	
Battery Information	Displays the battery status and the type of AC adapter connected to the computer	
Boot Sequence	Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. The options are: • Diskette Drive • Internal HDD • USB Storage Device • CD/DVD/CD-RW Drive • Onboard NIC

Option	Description	
		By default, all the options are checked. You can also deselect any option or change the boot order.
	Boot List Option	Allows you to change the boot list option. • Legacy • UEFI
Advanced Boot Options	This option allows you the legacy option ROMs to load. By default, the **Enable Legacy Option ROMs** is unchecked.	
Date/Time	Allows you to change the date and time.	

Table 3. System Configuration

Option	Description
Integrated NIC	Allows you to configure the integrated network controller. The options are: • Disabled • Enabled • Enabled w/PXE: This option is enabled by default.
Parallel Port	Allows you to configure the parallel port on the docking station. The options are: • Disabled • AT: This option is enabled by default. • PS2 • ECP
Serial Port	Allows you to configure the integrated serial port. The options are: • Disabled • COM1: This option is enabled by default. • COM2 • COM3 • COM4
SATA Operation	Allows you to configure the internal SATA hard-drive controller. The options are: • Disabled • AHCI • RAID On: This option is enabled by default.
Drives	Allows you to configure the SATA drives on board. All drives are enabled by default. The options are: • SATA-0

Option	Description
	• SATA-1 • SATA-2 • SATA-3
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. This option is disabled by default. • Enable SMART Reporting
USB Configuration	This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices (HDD, memory key, floppy). If USB port is enabled, device attached to this port is enabled and available for OS. If USB port is disabled, the OS cannot see any device attached to this port. • Enable Boot Support • Enable External USB Port • Enable USB3.0 Controller **NOTE:** USB keyboard and mouse always work in the BIOS setup irrespective of these settings.
Audio	This field enables or disables the integrated audio controller. By default, the **Enable Audio** option is selected.
Keyboard Illumination	This field lets you choose the operating mode of the keyboard illumination feature. The keyboard brightness level can be set from 25% to 100% • Disabled. • Level is 25% • Level is 50% • Level is 75% • Level is 100%: This option is enabled by default
Unobtrusive Mode	This option, when enabled, pressing Fn+B turns of all light and sound emissions in the system. To resume normal operation, press Fn+B again. This option is Disabled by default.
Miscellaneous Devices	Allows you to enable or disable the following devices: • Enable Microphone • Enable Camera • Enable Express card • Enable Hard Drive Free Fall Protection • Enable Media Card • Disable Media Card

Option	Description
	NOTE: All devices are enabled by default. You can also enable or disable Media Card.

Table 4. Video

Option	Description
LCD Brightness	Allows you to set the display brightness depending up on the power source (On Battery and On AC).

NOTE: The Video setting will only be visible when a video card is installed into the system.

Table 5. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. **NOTE:** You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password. **NOTE:** Successful password changes take effect immediately. Default Setting: Not set
System Password	Allows you to set, change or delete the system password. **NOTE:** Successful password changes take effect immediately. Default Setting: Not set
Internal HDD-1 Password	Allows you to set or change the system's internal hard-disk drive. **NOTE:** Successful password changes take effect immediately. Default Setting: Not set
Strong Password	Allows you to enforce the option to always set strong passwords. Default Setting: Enable Strong Password is not selected. **NOTE:** If Strong Password is enabled, Admin and System passwords must contain at least one uppercase character, one lowercase character and be at least 8 characters long.
Password Configuration	Allows you to determine the minimum and maximum length of Administrator and System passwords.
Password Bypass	Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are: • Disabled • Reboot bypass Default Setting: Disabled

Option	Description
Password Change	Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set. Default Setting: Allow Non-Admin Password Changes is selected
Non-Admin Setup Changes	Allows you to determine whether changes to the setup options are allowed when an Administrator Password is set. If disabled the setup options are locked by the admin password.
TPM Security	Allows you to enable the Trusted Platform Module (TPM) during POST. Default Setting: The option is disabled.
Computrace	Allows you to activate or disable the optional Computrace software The options are: • Deactivate • Disable • Activate **NOTE:** The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed Deactivate (default)
CPU XD Support	Allows you to enable the Execute Disable mode of the processor. Enable CPU XD Support (default)
OROM Keyboard Access	Allows you to set an option to enter the Option ROM Configuration screens using hotkeys during boot. The options are: • Enable • One Time Enable • Disable Default Setting: Enable
Admin Setup Lockout	Allows you to prevent users from entering Setup when an Administrator password is set. Default Setting: Enable Admin Setup Lockout is not selected.

Table 6. Secure Boot

Option	Description
Secure Boot Enable	This option enables or disables the Secure Boot Feature. • Disable (default) • Enable
Expert Key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK • KEK • db

Option	Description
	• dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**- Saves the key to a user-selected file • **Replace from File**- Replaces the current key with a key from a user-selected file • **Append from File**- Adds a key to the current database from a user-selected file • **Delete**- Deletes the selected key • **Reset All Keys**- Resets to default setting • **Delete All Keys**- Deletes all the keys **NOTE:** If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.

Table 7. Performance

Option	Description
Multi Core Support	This field specifies whether the process will have one or all cores enabled. The performance of some applications will improve with the additional cores. This option is enabled by default.Allows you to enable or disable multi-core support for the processor. The options are: • All • 1 • 2 Default Setting: All
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep feature. Default Setting: Enable Intel SpeedStep
C States Control	Allows you to enable or disable the additional processor sleep states. Default Setting: The option C states is enabled.
Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. Default Setting: Enable Intel TurboBoost
Hyper-Thread Control	Allows you to enable or disable the HyperThreading in the processor. Default Setting: Enabled
Rapid Start Technology	This option might improve the battery life by automatically putting the computer in to a low power state during Sleep, after a user-specified amount of time. Default Setting: Disabled

Table 8. Power Management

Option	Description
AC Behavior	Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected. Default Setting: Wake on AC is not selected.
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are: • Disabled **(default)** • Every Day • Weekdays • Select Days
USB Wake Support	Allows you to enable USB devices to wake the system from Standby. **NOTE:** This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the system setup will remove power from all of the USB ports to conserve battery power. • Enable USB Wake Support • DEnable USB Wake Support is not selected
Wireless Radio Control	Allows you to enable or disable the feature that automatically switches from wired or wireless networks without depending on the physical connection. • Control WLAN Radio • Control WWAN Radio • Control WLAN radio or Control WWAN radio is not selected (default)
Wake on LAN/WLAN	Allows you to enable or disable the feature that powers on the computer from the Off state when triggered by a LAN signal. • Disabled: This option is enabled by default • LAN Only • WLAN Only • LAN or WLAN • LAN with PXE Boot
Block Sleep	This option lets you block entering to sleep (S3 state) in Operating System environment. Block Sleep (S3 state) - This option is disabled by default.
Peak Shift	This option enables you to minimize the AC power consumption during the peak power times of day. After you enable this option, your system runs only in battery even if the AC is attached.
Advanced Battery Charge Configuration	This option enables you to maximize the battery health. By enabling this option, your system uses the standard charging algorithm and other techniques, during the non-work hours to improve the battery health.

Option	Description
	Disabled (default)
Primary Battery Charge Configuration	Allows you to select the charging mode for the battery. The options are: • Adaptive • Standard • ExpressCharge: This option is enabled by default. • Primarily AC use • Custom If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop. **NOTE:** All charging mode may not be available for all the batteries. To enable this option, disable the **Advanced Battery Charge Configuration** option.
Battery Slice Charge Configuration	Allows you to select the type of charge for the battery. The options are: • Standard Charge • Express Charge : This option is enabled by default. **NOTE:** Express charge may not be available for all the batteries. To enable this option, disable the **Advanced Battery Charge Configuration** option.
Intel Smart Connect Technology	This option, if enabled, periodically senses the nearby wireless connections, while the system is in sleep state. You can use this option to synchronize the email or other social media application that are open, when the system enters the sleep state.

Table 9. POST Behavior

Option	Description
Adapter Warnings	Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters. Default Setting: Enable Adapter Warnings
Keypad (Embedded)	Allows you to choose one of two methods to enable the keypad that is embedded in the internal keyboard. • Fn Key Only: This option is enabled by default. • By Numlock **NOTE:** The Keyboard (Embedded) option is not supported in Latitude E5540
Mouse/Touchpad	Allows you to define how the system handles mouse and touch pad input. The options are: • Serial Mouse • PS2 Mouse

Option	Description
	• Toushpad/PS-2 Mouse: This option is enabled by default.
Numlock Enable	Allows you to enable the Numlock option when the computer boots. Enable Network (default)
Fn Key Emulation	Allows you to set the option where the <Scroll Lock> key is used to simulate the <Fn> key feature. Enable Fn Key Emulation (default)
Mebx Hotkey	Allows you to specify whether the MEBx Hotkey function should be enabled when the system boots Enable MEBx Hotkey (default)
Fastboot	Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are: • Minimal • Thorough (default) • Auto
Extended BIOS POST Time	Allows you to create an additional pre-boot delay. The options are: • 0 seconds • 5 seconds (default) • 10 seconds

Table 10. Virtualization Support

Option	Description
Virtualization	Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology (default)
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. Enable VT for Direct I/O — enabled by default.
Trusted Execution	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology. The TPM virtualization Technology, and Virtualization technology for direct I/O must be enabled to use this feature. Trusted Execution — disabled by default.

Table 11. Wireless

Option		Description
Wireless Switch		Allows to set the wireless devices that can be controlled by the wireless switch. The options are:
	Latitude E5440	• WWAN • WLAN • WiGig • Bluetooth All the options are enabled by default.
	Latitude E5540	• WLAN • WiGig • Bluetooth All the options are enabled by default.
Wireless Device Enable		Allows you to enable or disable the internal wireless devices.
	Latitude E5440	• WWAN • WLAN / WiGig • Bluetooth All the options are enabled by default.
	Latitude E5540	• WLAN / WiGig • Bluetooth All the options are enabled by default.

Table 12. Maintenance

Option	Description
Service Tag	Displays the Service Tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.

Table 13. System Logs

Option	Description
BIOS Events	Allows you to view and clear the System Setup (BIOS) POST events.
Thermal Events	Allows you to view and clear the System Setup (Thermal) events.
Power Events	Allows you to view and clear the System Setup (Power) events.

Updating the BIOS

It is recommended to update your BIOS (system setup), on replacing the system board or if an update is available. For laptops, ensure that your computer battery is fully charged and connected to a power outlet

1. Re-start the computer.
2. Go to **dell.com/support**.
3. Enter the **Service Tag** or **Express Service Code** and click **Submit**.

   NOTE: To locate the Service Tag, click **Where is my Service Tag?**

   NOTE: If you cannot find your Service Tag, click **Detect Service Tag**. Proceed with the instructions on screen.
4. If you are unable to locate or find the Service Tag, click the Product Category of your computer.
5. Choose the **Product Type** from the list.
6. Select your computer model and the **Product Support** page of your computer appears.
7. Click **Drivers & Downloads**.
8. On the Drivers and Downloads screen, under the **Operating System** drop-down list, select **BIOS**.
9. Identify the latest BIOS file and click **Download File**.
10. Select your preferred download method in the **Please select your download method below window**; click **Download File**.

    The **File Download** window appears.
11. Click **Save** to save the file on your computer.
12. Click **Run** to install the updated BIOS settings on your computer.

    Follow the instructions on the screen.

System and Setup Password

You can create a system password and a setup password to secure your computer.

Password Type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

CAUTION: The password features provide a basic level of security for the data on your computer.

CAUTION: Anyone can access the data stored on your computer if it is not locked and left unattended.

NOTE: Your computer is shipped with the system and setup password feature disabled.

Assigning a System Password and Setup Password

You can assign a new **System Password** and/or **Setup Password** or change an existing **System Password** and/or **Setup Password** only when **Password Status** is **Unlocked**. If the Password Status is **Locked**, you cannot change the System Password.

NOTE: If the password jumper is disabled, the existing System Password and Setup Password is deleted and you need not provide the system password to log on to the computer.

To enter a system setup, press <F2> immediately after a power-on or re-boot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>.
   The **System Security** screen appears.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password** , enter your system password, and press <Enter> or <Tab>.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - The password can contain the numbers 0 through 9.
   - Only lower case letters are valid, upper case letters are not allowed.
   - Only the following special characters are allowed: space, ("), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).

   Re-enter the system password when prompted.
4. Type the system password that you entered earlier and click **OK**.
5. Select **Setup Password**, type your system password and press <Enter> or <Tab>.
   A message prompts you to re-type the setup password.
6. Type the setup password that you entered earlier and click **OK**.
7. Press <Esc> and a message prompts you to save the changes.
8. Press <Y> to save the changes.
   The computer reboots.

Deleting or Changing an Existing System and/or Setup Password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.

To enter the System Setup, press <F2> immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password**, alter or delete the existing system password and press <Enter> or <Tab>.
4. Select **Setup Password**, alter or delete the existing setup password and press <Enter> or <Tab>.

   NOTE: If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.
5. Press <Esc> and a message prompts you to save the changes.
6. Press <Y> to save the changes and exit from the System Setup.
   The computer reboots.

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Diagnostics

If you experience a problem with your computer, run the ePSA diagnostics before contacting Dell for technical assistance. The purpose of running diagnostics is to test your computer's hardware without requiring additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

Enhanced Pre-Boot System Assessment (ePSA) Diagnostics

The ePSA diagnostics (also known as system diagnostics) performs a complete check of your hardware. The ePSA is embedded with the BIOS and is launched by the BIOS internally. The embedded system diagnostics provides a set of options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

CAUTION: Use the system diagnostics to test only your computer. Using this program with other computers may cause invalid results or error messages.

NOTE: Some tests for specific devices require user interaction. Always ensure that you are present at the computer terminal when the diagnostic tests are performed.

1. Power-on the computer.
2. As the computer boots, press the <F12> key as the Dell logo appears.
3. On the boot menu screen, select the **Diagnostics** option.
   The **Enhanced Pre-boot System Assessment** window is displayed, listing all devices detected in the computer. The diagnostics starts running the tests on all the detected devices.
4. If you wish to run a diagnostic test on a specific device, press <Esc> and click **Yes** to stop the diagnostic test.
5. Select the device from the left pane and click **Run Tests**.
6. If there are any issues, error codes are displayed.
   Note the error code and contact Dell.

Device Status Lights

Icon	Description
	Turns on when you turn on the computer and blinks when the computer is in a power management mode.
	Turns on when the computer reads or writes data.
	Turns on steadily or blinks to indicate battery charge status.
	Turns on when wireless networking is enabled.

Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

Alternately blinking amber light and white light	An unauthenticated or unsupported non-Dell AC adapter is attached to your laptop.
Alternately blinking amber light with steady white light	Temporary battery failure with AC adapter present.
Constantly blinking amber light	Fatal battery failure with AC adapter present.
Light off	Battery in full charge mode with AC adapter present.
White light on	Battery in charge mode with AC adapter present.

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Specifications

NOTE: Offerings may vary by region. For more information regarding the configuration of your computer, click Start **(Start icon)** → **Help and Support**, and then select the option to view information about your computer.

Table 14. System Information

Feature	Specification
DRAM bus width	64-bit
Flash EPROM	SPI 32Mbits + 64Mbits
PCIe Gen1 bus	100 MHz
External Bus Frequency	DMI (5GT/s)

Table 15. Processor

Feature	Specification
Types	• Intel Core i3 series • Intel Core i5 series • Intel Core i7 series
L3 cache	up to 8 MB

Table 16. Memory

Feature	Specification
Memory connector	two SoDIMM slots
Memory capacity	2 GB, 4 GB, or 8 GB
Memory type	DDR3 SDRAM 1600 Mhz
Minimum memory	2 GB
Maximum memory	8 GB

Table 17. mSATA Support

Feature	Specification
with Express Card I/O and Discrete Graphic Configuration	No mSATA support on both Latitude E5440 and Latitude E5540.
for other configurations	mSATA is supported on both Latitude E5440 and Latitude E5540.

Feature	Specification
without Express Card I/O on Discrete Graphic and all UMA Graphic Configurations	• Supports mSATA and WWAN on Latitude E5440 • Supports mSATA on Latitude E5540.

Table 18. Audio

Feature	Specification
Type	four-channel high definition audio
Controller	Realtek ALC3226
Stereo conversion	24-bit (analog-to-digital and digital-to-analog)
Interface:	
Internal	high definition audio
External	microphone-in/stereo headphones/external speakers connector
Speakers	two
Internal speaker amplifier	1W (RMS) per channel
Volume controls	hot keys for volume control and mute control

Table 19. Video

Feature	Specification
Type	integrated on system board
Controller	
UMA	Intel HD Graphics 4600
Discrete	Nvidia GeForce (N14M-GE) Discrete Graphics Card, 2 GB Graphics

Table 20. Communications

Feature	Specification
Network adapter	10/100/1000 Mb/s Ethernet (RJ-45)
Wireless	• Internal wireless local area network (WLAN) • Wireless wide area network (WWAN) (E5440 only)

Table 21. Ports and Connectors

Feature	Specification
Audio (optional)	one microphone/stereo headphone/speakers connector
Video	• one 15-pin VGA connector • 19-pin HDMI connector

Feature	Specification
Network adapter	one RJ-45 connector
USB 2.0	• one 4–pin USB 2.0–compliant connector (E5440) • two 4-pin USB 2.0-compliant connectors (E5540) **NOTE:** The USB 2.0 connector at the back of the Latitude E5540 computer, gets deactivated, when the Latitude E5540 computer is connected to the docking station.
USB 3.0	two USB 3.0–compliant connectors
Memory card reader	one 8-in-1 memory card reader
Docking port	one
Subscriber Identity Module (SIM) port	one (E5440 only)

Table 22. Display

Feature	Specification
Type	
Latitude E5440	• HD(1366x768), WLED • HD+(1600 x 900)
Latitude E5540	• HD(1366x768), WLED • FHD (1920 x 1080)
Size	
Latitude E5440	14.0"
Latitude E5540	15.6"
Dimensions:	
Latitude E5440:	
Height	192.5 mm (7.57 inches)
Width	324 mm (12.75 inches)
Diagonal	355.60 mm (14.00 inches)
Active ares (X/Y)	309.40 mm x 173.95 mm
Maximum resolution	• 1366 x 768 pixels • 1600 x 900 pixels
Maximum Brightness	200 nits
Latitude E5540:	
Height	210 mm (8.26 inches)

Feature	Specification
Width	360 mm (14.17 inches)
Diagonal	394.24 mm (15.60 inches)
Active area (X/Y)	344.23 mm x 193.54 mm
Maximum resolution	• 1366 x 768 pixels • 1920 x 1080 pixels
Maximum Brightness	220 nits for HD, 300 nits for FHD
Operating angle	0° (closed) to 135°
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	• +/- 40° for HD • +/- 60° for FHD
Vertical	• +10°/-30° for HD • +/-50° for FHD
Pixel pitch:	
Latitude E5440	0.2265 mm x 0.2265 mm
Latitude E5540	• 0.2520 mm x 0.2520 mm for HD • 0.1790 x 0.1790 for FHD

Table 23. Keyboard

Feature	Specifcation
Number of keys	United States: 86 keys, United Kingdom: 87 keys, Brazil: 87 keys, and Japan: 90 keys
Layout	QWERTY/AZERTY/Kanji

Table 24. Touchpad

Feature	Specification
Active Area:	
X-axis	80.00 mm (3.15 inches)
Y-axis	45.00 mm (1.77 inches)

Table 25. Battery

Feature	Specification
Type	4, 6 or 9-cell "smart" lithium ion
Dimensions:	

Feature	Specification
Height	
4-, 6-, and 9-cell	20.00 mm (0.79 inch)
Width	
4- and 6-cell	208.00 mm (8.18 inches)
9-cell	214.00 mm (8.43 inches)
Depth	
4- and 6-cell	48.08 mm (1.89 inches)
9-cell	71.79 mm (2.83 inches)
Weight	
4-cell	240.00 g (0.53 lb)
6-cell	344.73 g (0.76 lb)
9-cell	508.20 g (1.12 lb)
Voltage	
4-cell	14.8 VDC
6- and 9-cell	11.1 VDC
Temperature range:	
Operating	0 °C to 50 °C (32 °F to 122 °F)
Non-Operating	–40 °C to 85 °C (–40 °F to 185 °F)
	NOTE: The battery pack is capable of safely withstanding the above storage temperatures with 100% charge.
	NOTE: The battery pack is also capable of withstanding storage temperatures from –20 °C to +60 °C with no degradation in its performance.
Coin-cell battery	3 V CR2032 lithium coin cell

Table 26. AC Adapter

Feature	Latitude E5440	Latitude E5540
Type	65 W	90 W adapter
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC
Input current (maximum)	1.7 A	1.5 A
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Output power	65 W	90 W
Output current	3.34 A (continuous)	4.62 A (continuous)

Feature	Latitude E5440	Latitude E5540
Rated output voltage	19.5 +/– 1.0 VDC	19.5 +/– 1.0 VDC
Temperature range:		
Operating	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C (32 °F to 104 °F)
Non-Operating	–40 °C to 70 °C (–40 °F to 158 °F)	–40 °C to 70 °C (–40 °F to 158 °F)

Table 27. Physical

Physical	Latitude E5440		Latitude E5540	
	Touch	Non-touch	Touch	Non-touch
Height	Front - 27.70 mm (1.09 inches) Back - 32.20 mm (1.27 inches)	Front - 25.20 mm (0.99 inch) Back - 28.65 mm (1.13 inches)	Front - 28.25 mm (1.11 inches) Back - 33.60 mm (1.32 inches)	Front - 26.00 mm (1.02 inches) Back - 29.70 mm (1.17 inches)
Width	338.00 mm (13.31 inches)		379.00 mm (14.92 inches)	
Depth	235.00 mm (9.25 inches)		250.50 mm (9.86 inches)	
Weight (minimum)	1.99 kg (4.40 lb)		2.42 kg (5.35 lb)	

Table 28. Environmental

Feature	Specification
Temperature:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Storage	–40 °C to 65 °C (–40 °F to 149 °F)
Relative humidity (maximum):	
Operating	10 % to 90 % (non condensing)
Storage	5 % to 95 % (non condensing)
Altitude (maximum):	
Operating	–15.24 m to 3048 (–50 ft to 10,000 ft ft)
Non-Operating	–15.24 m to 10,668 m (–50 ft to 35,000 ft)
Airborne contaminant level	G1 as defined by ISA-71.04–1985

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Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **dell.com/support**
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.